

# RESTORING A LOST LANDSCAPE

## a conservation plan for the former Newport Chemical Depot

Tom Swinford IDNR Nature Preserves



# IDNR- Division of Nature Preserves

Indiana  
Natural  
Heritage  
Program



## Thomas Swinford, Ecologist

- There are 229 Nature Preserves dedicated.
- This represents over 32,000 acres in a system of preserves throughout Indiana.
- We work closely with varied partners in dedicating significant natural areas:  
DNR State Parks, DNR Forestry, DNR Fish and Wildlife, The Nature Conservancy, regional land trusts, city and county park systems.



# The Newport Chemical Depot

Fighting Our Wars: history of the site

# Wabash River Ordnance Works

- Built 1942 by the E I DuPont de Nemours & Co
- 21,986 acres
- Produced **RDX (conventional explosive)** for WWII and Korean war.
- the Newport Army Ammunition Plant began production of **heavy water** for the nuclear weapons program in 1943.



RDX plant  
1972



# VX Nerve Agent

- Beginning in 1961, Newport became a site for chemical weapons manufacturing, producing the entire U.S. stockpile of **VX nerve agent**.
- Discontinued by President Richard Nixon in 1969.

VX is the most toxic nerve agent ever synthesized.







1960-1968  
CHEMICAL PLANT  
BUILDING 144  
VX FILLING MACHINES

# VX Nerve Agent storage

1,269 tons  
of VX



# Disposal of VX

- The Army began agent destruction operations in May 2005 and completed operations in August 2008.
- 2009, September: Chemical Weapons Convention treaty inspectors verify 100% destruction of VX.







chemically neutralizing VX nerve agent

2005-2008

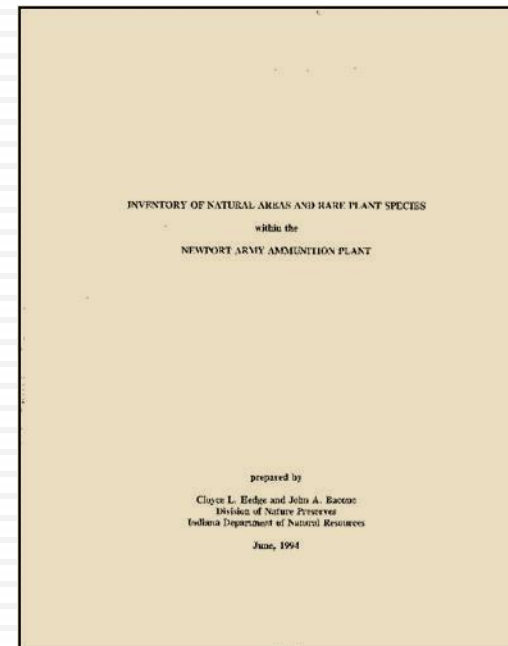
# End of an Era: closing of site

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- 2010, June: Deactivation Ceremony to close the Newport Chemical Depot (NECD)
- Transferred to ReUse Authority October 2011

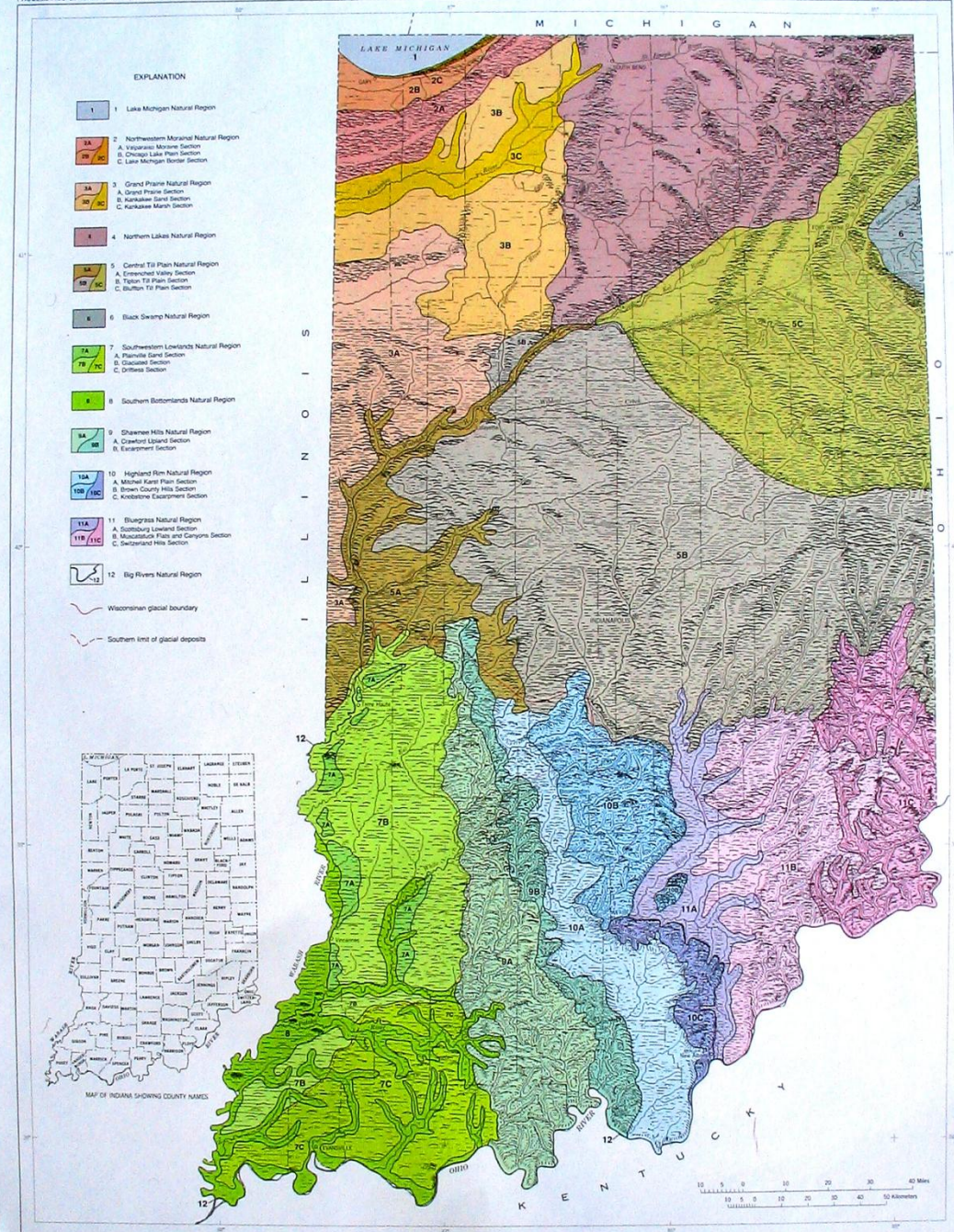
# Newport Chemical Depot and DNP

A long history of inventory, cooperation and support

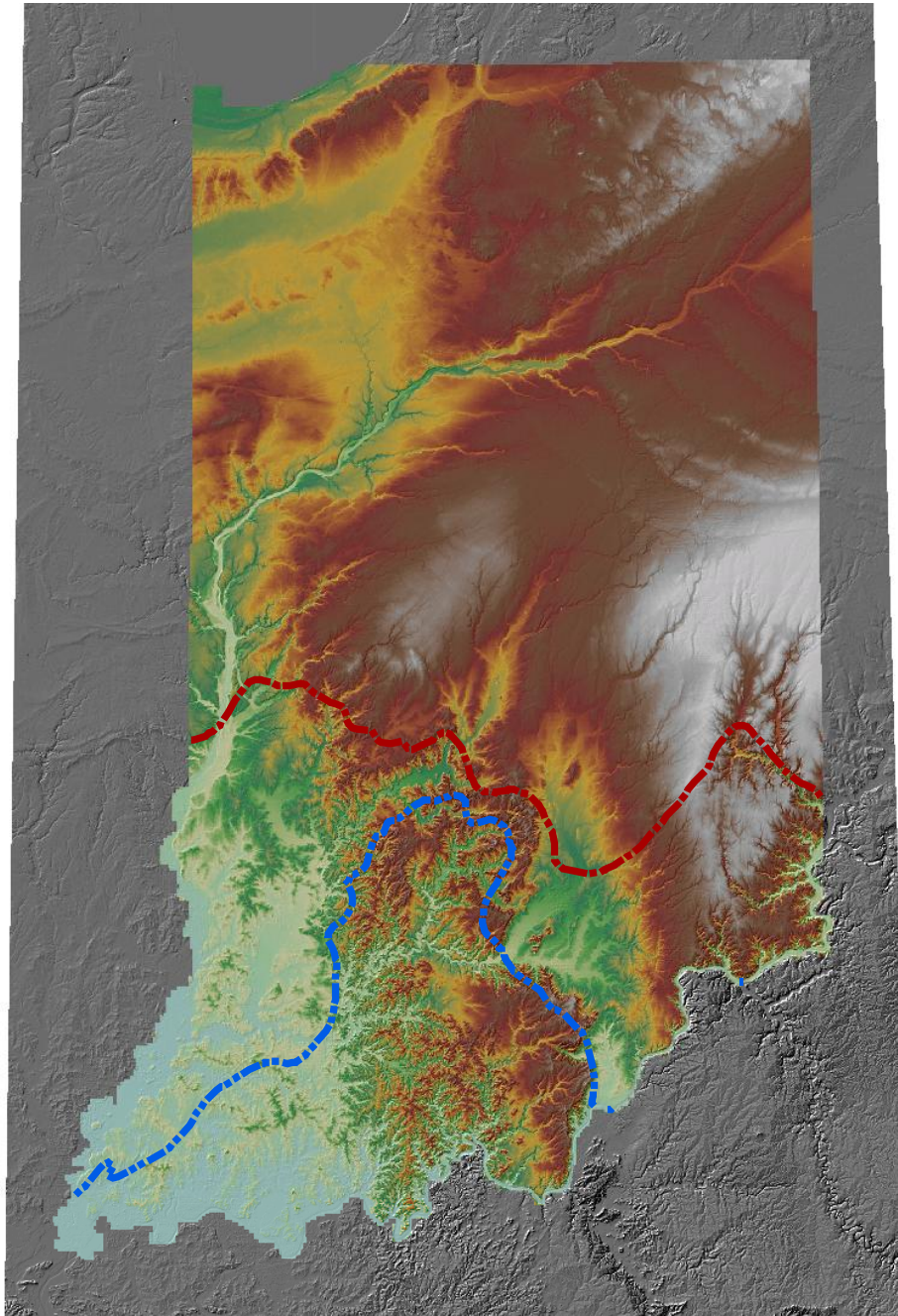




# Map of the Natural Regions of Indiana









The Grand Prairie Natural Region

# The Opportunity for Conservation

- Prairie-Woodland landscape scale restoration
- Wetland restoration
- Regionally significant



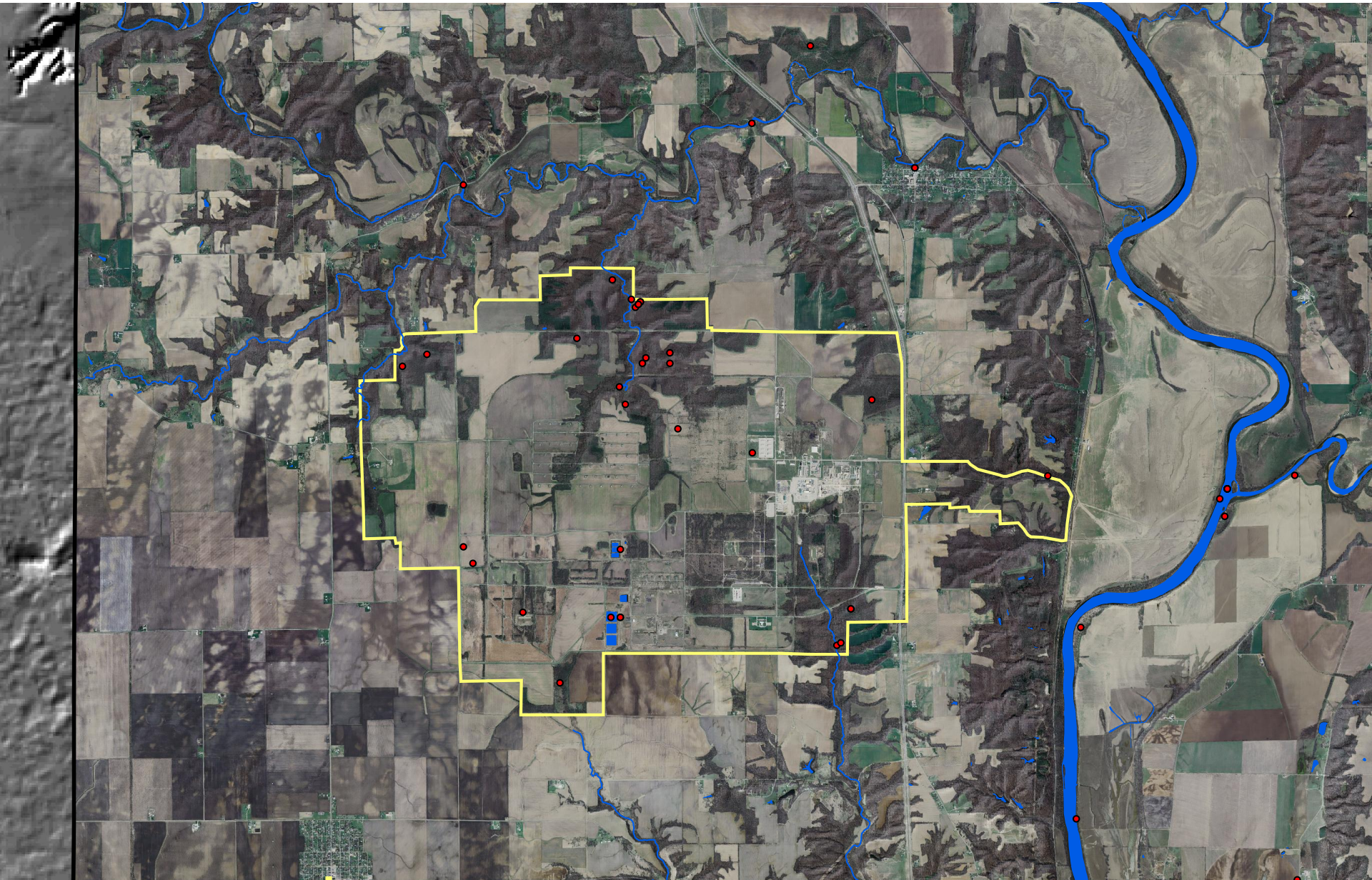
# Newport Site Characteristics

- Large forest blocks containing RT&E species
- Tributary stream (Little Vermillion) connected to Wabash River
- Large areas of former wetland and prairie soils



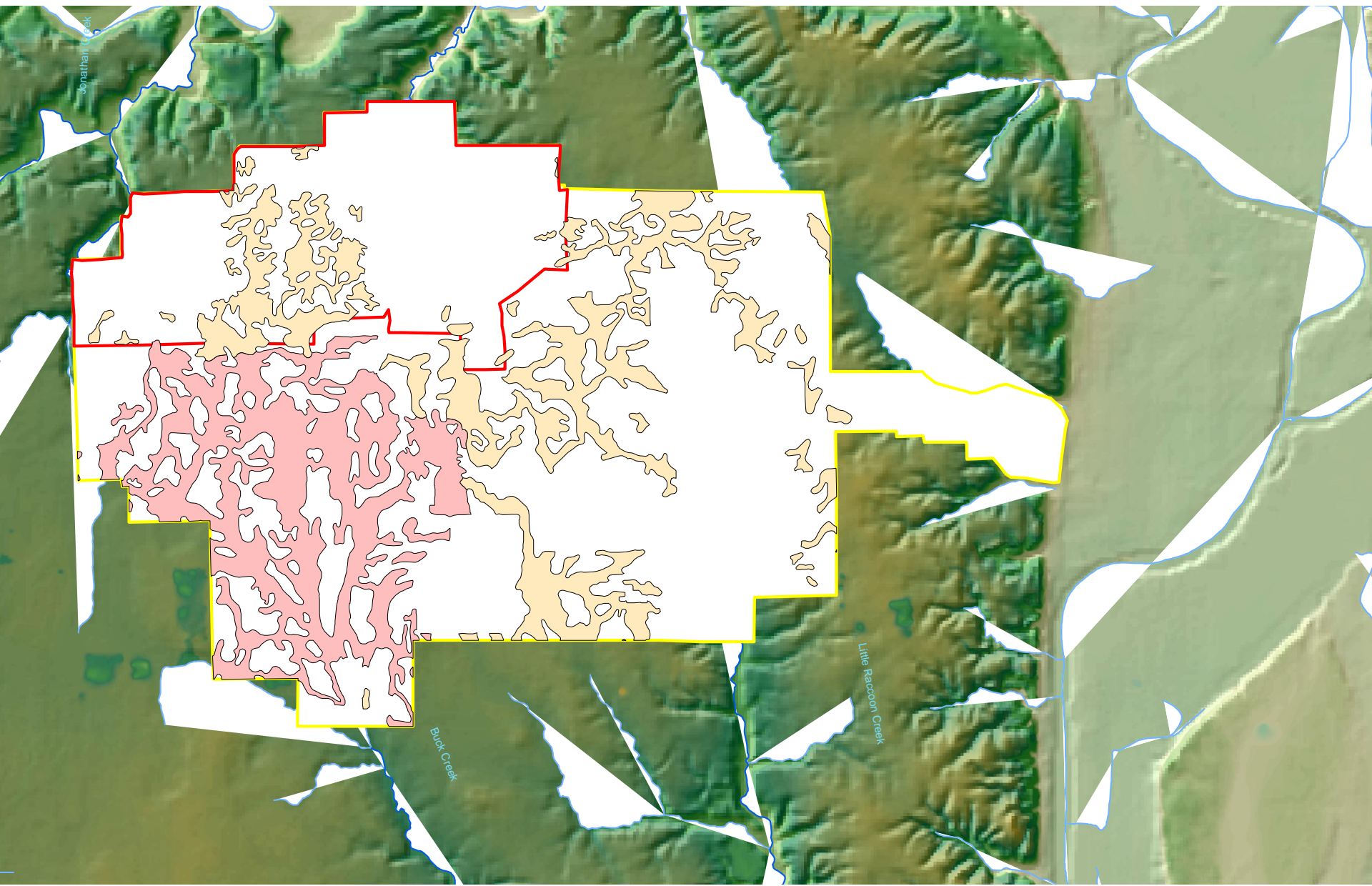


Newport Chemical Depot RT&E Species (red dots)

An aerial photograph of a rural landscape featuring a large, irregularly shaped area outlined in yellow. This yellow-outlined area contains numerous small red dots, which represent RT&E species locations. The landscape is a patchwork of brown and tan agricultural fields, some green areas, and dark, wooded regions. A prominent blue line, likely a river or stream, winds through the right side of the image. A road or railway line runs vertically through the center-right. The overall scene is a top-down view of a complex terrain with various land uses and natural features.



Silt Loam Prairie Soils- Sable and Ragsdale



# A Balanced ReUse Plan

An emphasis on economic development with a commitment to conservation.



7,155 acres (11 sq. mi.)



# Conservation in the Reuse Plan

- Conservation plan consolidates the Depot's most important natural features into a 1,705 acre DNR conservation area.
- An additional 1,101 acres in a "Bat Protection Zone"
- Total Conservation 2,806 acres (39% of entire site)

# The DNR Plan, habitat restoration

- 1,705 total acres:  
prairie-forest transitional landscape

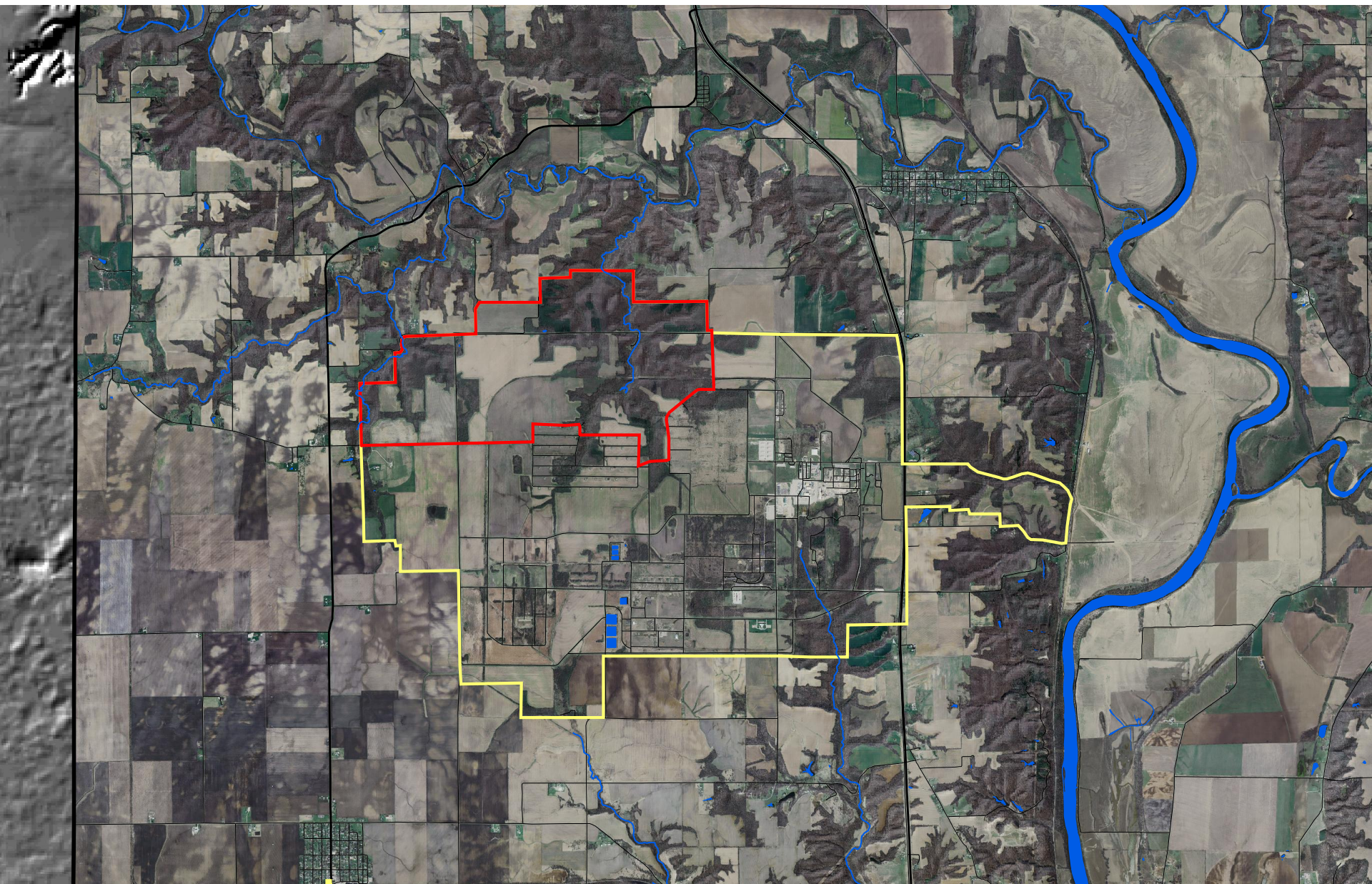
Includes:

- 1079 acres woodland
- 670 acres wet prairie-savanna
  - ▣ 267 acre wetland bank within above prairie area

# Conservation Design Principles

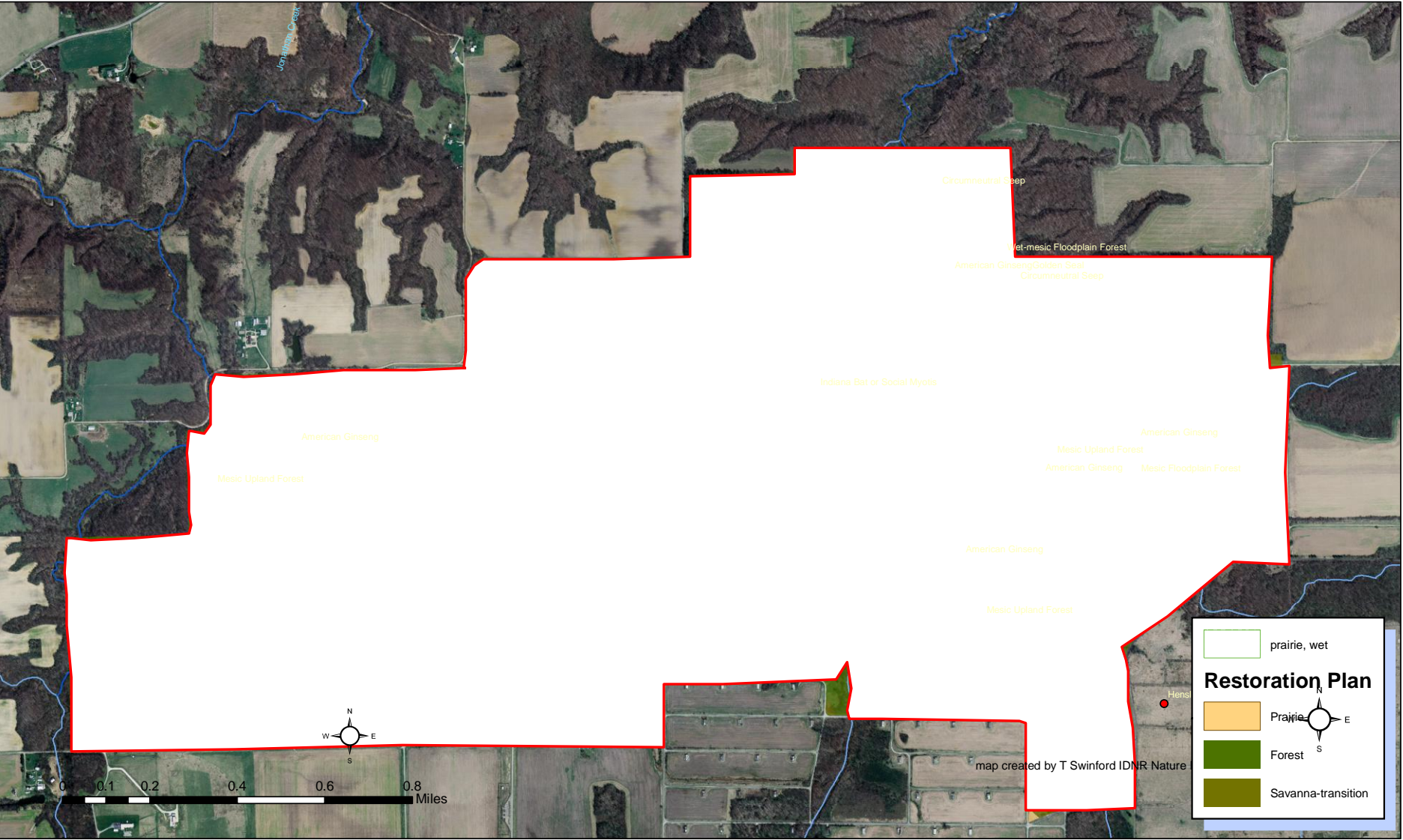
- Avoid existing or proposed infrastructure
- Enhance or expand habitat for Rare and Endangered species
- Connect existing natural features (forest blocks, streams)
- Minimize edge effects
- Provide for management needs
- Create a recreational asset and destination



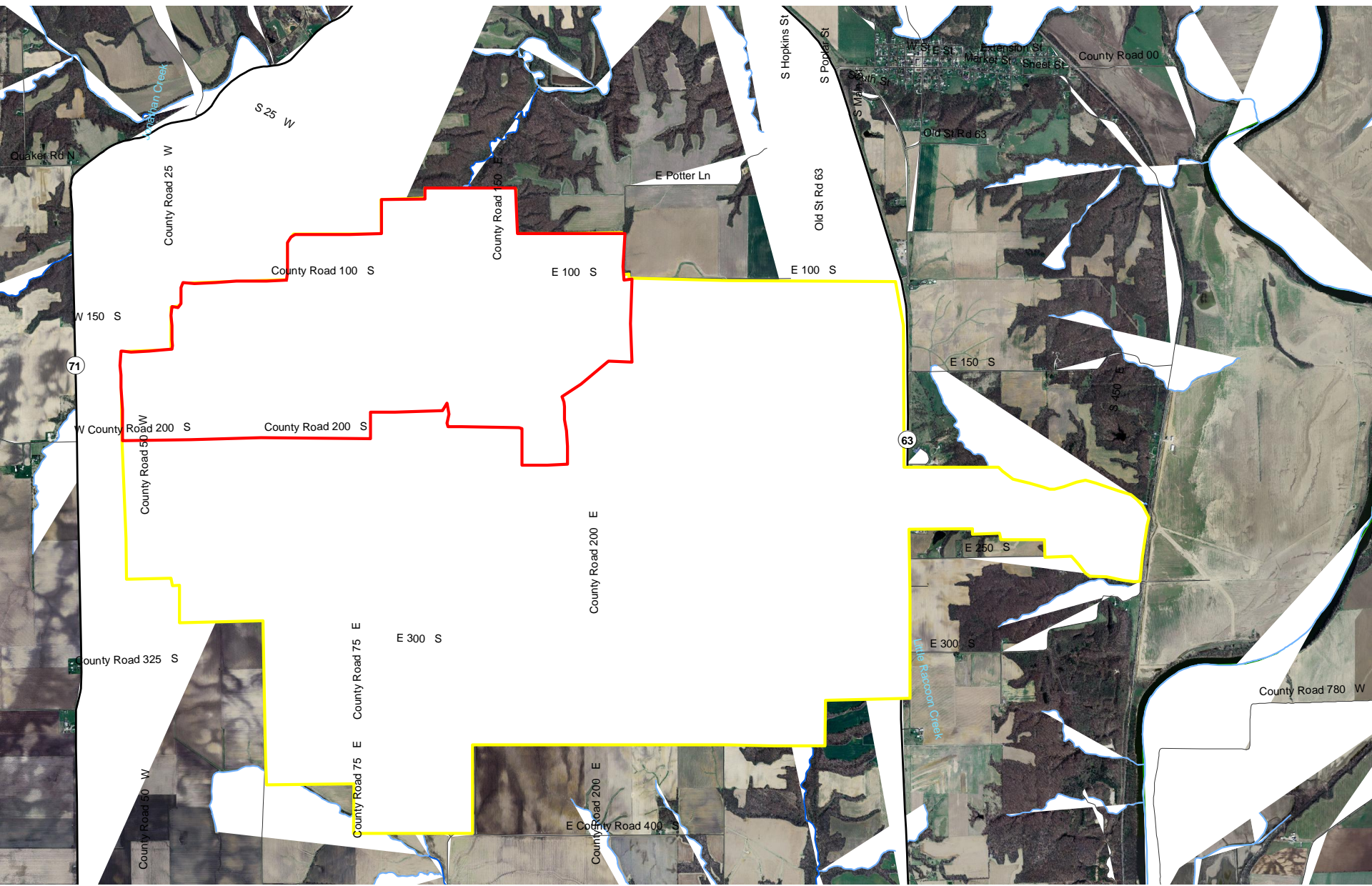




# Newport Chemical Depot Conservation Area "The DNR Plan" 1,749 acres



267 acres Wetlands









## Migratory bird resting areas





Declining forest species: Eastern Box Turtle









Declining wet prairie species: Northern Leopard Frog





Declining Grassland Bird: Sedge Wren



© Terry Sohl

## Endangered grassland species: Short-eared Owl





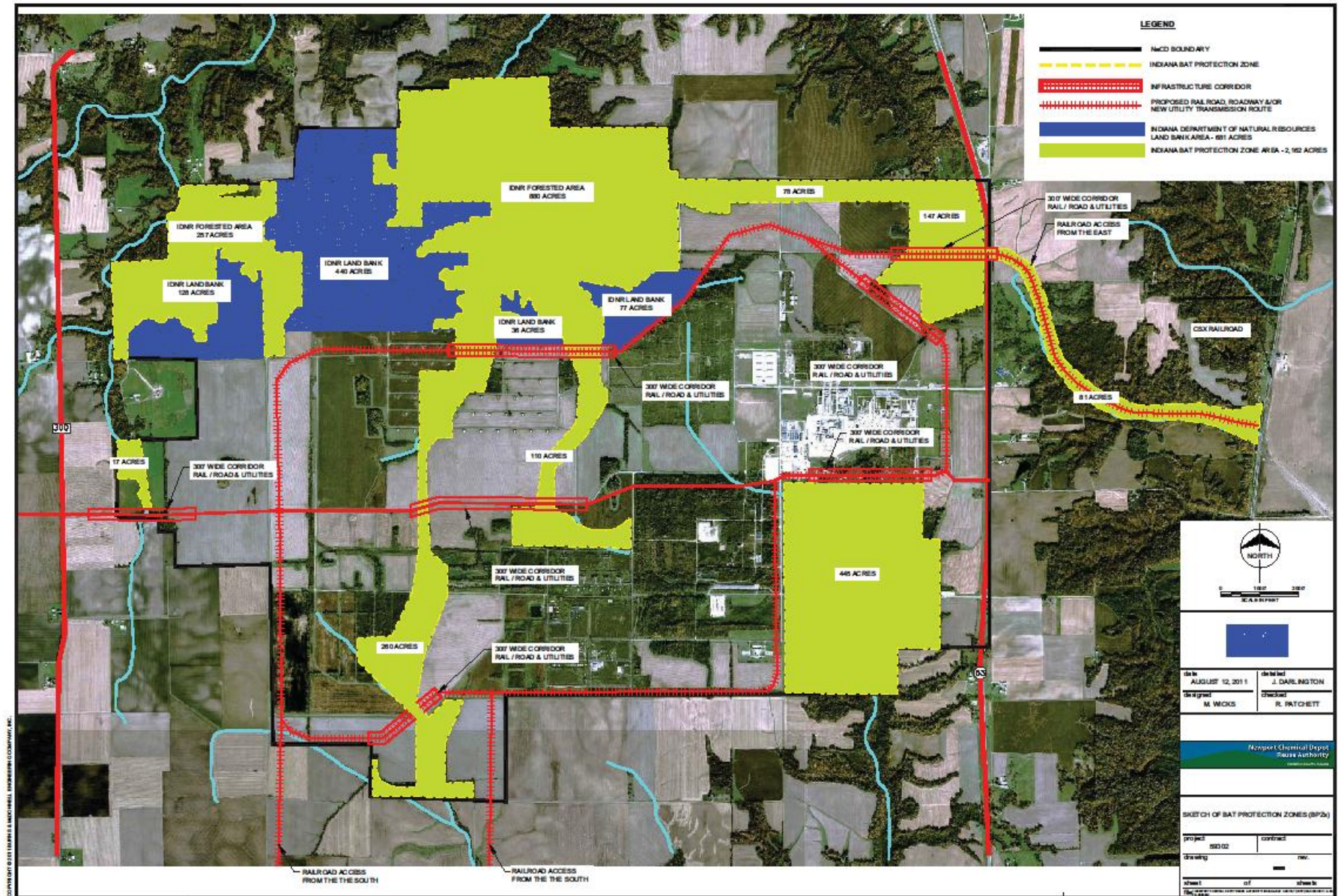
## Indiana Bat (*Myotis sodalis*)

- Federally Endangered
- Cave dwelling - winter
- Woodlands - summer





Total Conservation Lands 2,806 acres





# 1,705 DNR Conservation Area

- Phased implementation plan that accounts for most of the funds needed- in 15 years the State will own.
- Very reasonable/low cost to State.
- Mitigation Bank to pay for habitat restoration
- DNR will work with the ReUse Authority in their management for areas outside of the DNR conservation area.

# Thank you

## Questions?

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